building plus 2

NOVEMBER 1971

ICI

Metals to protect and colour

Corporate Marketing: its aims and policies

ICI and its subsidiary IMI have an enormous stake in the building industry with a turnover in its products and services amounting to about £80 million a year. Sales are handled by the marketing organisations of numerous separate business areas within ICI.

Each business area specialises in its own range of products and services and their application in building. This is of great importance to the specifier who wants detailed and expert advice on the products to be used in his building designs.

In addition, a co-ordinated approach has been established by ICI to strengthen its efforts in providing good contact with specifiers.

This approach is planned through ICI's Building Group which has several services and link points on a corporate basis including departments dealing with marketing, market research, publicity and public relations.

This article deals with Corporate Marketing which has three main functions:

1. *To acquaint specifiers with the whole range of ICI and IMI building materials and services.*

The Corporate Marketing team is fully briefed to describe these products and services and to advise the specifier on how they can be used in his designs. As well as visiting specifiers to talk about the ICI range, Corporate Marketing lectures to local branches of the professional bodies on the organisation of ICI, how its building products have been developed and how they fit into building designs.

2. *To act as a central contact in ICI.*

People may refrain from asking for information on ICI products because of not knowing the right person to consult. Corporate Marketing removes this difficulty by providing a central contact point in ICI. Anyone who wants to know more about an ICI product or whether the Group makes a material or provides a service that could help overcome a design problem should get in touch with Corporate Marketing Department, ICI Building Group, P.O. Box 100, Welwyn Garden City, Hertfordshire (telephone Welwyn Garden 23400, ext. 3626).

3. *To provide ICI with a "feed-back" from the building industry.*

The Group is anxious to help solve some of the recurring problems of building. By receiving a "feed-back" from the building industry on problem areas and being able to ascertain which difficulties are the most general throughout building, Corporate Marketing can help point the considerable research and development effort of ICI in the right direction.

New data sheet service begins

A NEW service to provide data sheets produced on a continual programme has been launched by ICI and IMI. The sheets have been written by an independent architectural/building consultancy in co-operation with the Companies' product groups.

The information appears in a standard format related to the needs of specifiers. Wherever possible price guidance information which is so often required has been given to assist in the interpretation and use of the information.

These information sheets are being produced to cover products in an informative but brief way. New products will be incorporated as they emerge and revised sheets published when required. A continual assessment of accuracy and up-to-date nature of the information will be carried out.

One way a specifier can have this information is to request on the reply card in this issue of Building Plus a folder in which all the sheets can be filed as they appear. Alternatively (or in addition) data sheets can be filed according to their product classification in a library system.

Information given in the sheets is intended to be sufficient to enable a specifier to make a decision to use a product. It also acts as a guide to the Company's activities overall. Further information on a particular product can be obtained from the addresses and telephone numbers given on each data sheet.

Many specifiers will soon be users of new services such as the NBA+Building Commodity File. These data sheets are complementary to and supply supplementary information on such services.

It is important to continue improving communication between manufacturer, specifier and all other parties involved in the building process and this can only help in the deeper inter-relationship between those parties and also assist in the increasing efficiency of the building process as a whole.

ICI and IMI want to increase the depth of contact with specifying bodies through the Corporate Marketing Executives who visit specifiers on a multi-product discussion basis. The "Information Building" scheme is another example of the way in which the Company, through its Building Group, is endeavouring to improve its communication relationship on a broad front with specifiers.

Controlling the clamour

ENVIRONMENTAL noise pollution is becoming a major social and political issue, and increasing attention is being given to its control whether it be in public buildings, houses or factories. Omega Laboratories Limited, a wholly-owned subsidiary of ICI, can overcome noise problems either at the design stage or when it is discovered that the problem exists.

Omega works mainly in the architectural and industrial fields with a complete service, consult, measure, design and fix. This flexible service can assist architects and builders concerned with schools, hospitals, office landscaping, TV and recording studios and auditoria.

The acoustic aspects of such projects can be fully co-ordinated from design stage through to final commissioning backed by full measurement facilities for both sound and ventilation.

Noise generated within a factory can give rise to serious hearing damage to workers or at least can be a source of nuisance to those living and working in the neighbourhood.

There are two interesting examples of problems which have been solved satisfactorily. It was intended to convert a building for use as a pumping station but the noise of the pump would be likely to annoy local residents. Omega's answer was to design, supply and erect a sound-reducing and absorbent ceiling to improve the poor sound insulation of the existing building.

This also involved the design and erection of complete supporting steelwork, as well as a protective treatment against high humidity. Two ventilation lines with the necessary silencing also had to be installed.

In another case, Omega supplied and erected a sound-reducing and absorbent ceiling for a compressor house together with acoustic doors, after a design study had been carried out by an independent consultant. The compressor house was adjacent to offices and it was necessary to erect a double skin ceiling with an absorbent lined cavity.

The entrances to the building were of a sound lock construction, consisting of a short absorbent lined corridor with a substantial steel acoustically sealing door at each end. The main folding door was especially constructed to offer favourable sound insulation properties with due consideration given to peripheral sealing.

THE INSTITUTE OF ADVANCED ARCHITECTURAL STUDIES

Director: Robert Macleod, B.Arch

University of York, King's Manor, York

Tel. 24919

A DIPLOMA COURSE IN CONSERVATION STUDIES

Commencing in October 1972

Director of Studies: Dr Derek Linstrum, Dipl.Arch, Ph.D, ARIBA,
Radcliffe Lecturer in Conservation Studies

A DIPLOMA COURSE IN CONSERVATION STUDIES

The eminent suitability of York as a city in which to set up a course in conservation is self-evident. Within its boundaries is a collection, probably unrivalled in this country, of nationally important buildings and remains from the Roman period to the present century; it is, in itself, a complete case-study of the problems of urban blight and renewal, the conservation of historic buildings and townscapes, urban housing and transport, and the adaptation of an historic city to changing uses and needs. Within a radius of forty miles are fifteen ancient monuments in the guardianship of the Department of the Environment, important country houses dating from the 16th to the 19th centuries, four of the most notable 18th-century landscapes in the country, and a wide range of vernacular buildings. The city is located in the centre of the agricultural north and close to the industrial south of Yorkshire, and is in a good position to study the peculiar problems of conservation in industrial cities as well as the more obvious aspects of the subject.

Since the formation of the Institute of Advanced Architectural Studies at York in 1949, short courses on conservation have regularly been included in the annual programme, and a close acquaintance with practitioners in this field in this country and abroad has been steadily built up. In 1968 the Institute helped to organize and conduct the Historic Towns and Cities Conference, and the 1971-72 programme began with three short courses on aspects of conservation. A new appointment, the Radcliffe Lecturer in Conservation Studies, was made in 1971, with the assistance of the Radcliffe Trust, in order to develop this study as a post-graduate mid-career course.

The need for such a course has been becoming increasingly apparent, and its initiation has received the support of all the professional bodies, learned societies and amenity groups concerned with conservation. In planning it the word is intended to be used in its widest sense to imply the planned retention of a quality of life so far as it is affected by the built form. It is not used exclusively to mean the preservation and restoration of historic buildings, although this must inevitably be the core of a course based on architectural studies. The overall aim of the course is to attempt to co-ordinate the contributions of architects, planners, economists, historians, archaeologists and building craftsmen in analyzing, preserving, adapting and replacing buildings in isolation or as part of an identifiable pattern. It is regarded as an advantage that the Institute intends to open a one year full-time graduate course in Building Economics in 1973 and the two courses will have several points of contact.

Aspects of conservation which will be included are:

Architecture: restoration and preservation. Current attitudes and practice; legislation; maintenance and use of historic buildings; economic considerations; specifications and job organization.

Architectural history. Development of building types; analysis and recording; sources of research; decoration and furniture.

Construction. Traditional materials, tools and craftsmanship; methods of building and contracting; faults and derivation in construction and materials.

Landscape. History of landscape design; formation and planting; reclamation and maintenance.

Townscape and conservation areas. Historical development of communities; assessment of individual buildings and areas; legislation; economic considerations of retention or development; proposals for future development; detailed designs for conversions and replacements.

Conservation work requires confidence and sound judgement, and a prospective student will be required to have had a minimum experience of four years after completing a recognized professional and/or academic education. He will be expected to produce evidence that he has a sympathetic knowledge of historic buildings and towns which he is capable of developing in his chosen specialization; although this is most likely to be in the architectural or planning field it could equally well be a specialization undertaken by an historian or archaeologist, an engineer, a surveyor or a landscape architect. The general pattern of the course will be sufficiently flexible to allow various emphases to suit the student's experience and requirements.

The course will commence in October, 1972, and it will consist of three terms of eight weeks each. The syllabus is intended to achieve a balance of practical and theoretical work, and the student will be required to produce a dissertation or thesis as part of his submission for the University's Diploma in Conservation. Applications, including a prospective student's *curriculum vitae*, should be sent to the Director of the course:

Dr. Derek Linstrum
Institute of Advanced Architectural Studies
The King's Manor, York, YO1 2EP

If possible they should be submitted by the end of December, 1971. It is expected that applicants will be interviewed in January, 1972, to enable those who are accepted to make arrangements with their employers for leave of absence. The course is full-time, and students will be expected to reside in or near York for the three terms. Some residential accommodation will be available in the University Colleges. It is anticipated that a number of fellowships will be offered to students accepted for the course, and further information will be available at the interviews.

Metals to protect and colour

THE Romans were among the first users of metals for building. They covered the roof of the Pantheon with copper in 27 B.C. Copper is still used to clad and decorate our buildings—and modern technology has given us new methods of construction.

When the Romans used copper for roofing, they did it for a number of very good reasons. Copper roofs are long lasting, highly resistant to corrosion, easy and economical to apply, light and require little maintenance.

A natural process develops a surface film or patina on copper, which forms a protection against corrosion by the atmosphere. When exposed to the air, it is tarnished and the colour changes gradually to brown then to black. Eventually after a number of years, sulphurous gases in the atmosphere help to form a beautiful green layer on the surface. This remains virtually unchanged, affording complete protection to the copper throughout the life of the building.

Copper roofs and cladding can be installed at an economical price nowadays by using a prefabrication system, thus combining the tried and tested age-old roofing material with modern factory production methods. The copper can be factory-fixed to roofing panels at 12-inch centres down the panel face. This allows a light gauge of metal to be used with complete safety, thereby reducing the total cost. Factory weathered panels permit the site fixing work to proceed quickly, giving a secondary saving. The total amount that can be saved, compared with heavy gauge copper roofing fixed in-situ, should be 25 per cent.

In addition to adding colour to the outside of a building, copper and copper alloys are being used to an increasing extent indoors because of their warm colour and the cosy atmosphere they generate. Tables, counters and murals faced with preformed panels of smooth or patterned copper are used more and more in hotels, restaurants and bars. In the living room at home, copper is the metal for such items as the hoods of modern open fires and lighting fittings.

Now we have a new metal—titanium—which is available in a wide range of colours and finishes to add lustre to our buildings.

It is normally a dull grey metal used in aircraft and chemical plant because of its strength, lightness and resistance to corrosion.

But it has another side to its character. For the same reason that a soap bubble has colour—the phenomenon known as optical interference—titanium can be made to acquire a wide variety of colours by modification of the surface oxide without the aid of dyes, pigments or other man-made colouring additives. In addition to the colour, the surface can also be given several very attractive crystalline appearances.

Decorative titanium opens up new avenues to the architect and interior designer for the cladding of buildings, for ceiling and wall tiles, for clock faces and other features. Titanium can also be selectively treated by an artist using an "electrolyte pen" to colour pictures, murals, nameplates, plaques and sculptures.

Already the manufacturers of jewellery and fancy goods have recognised the advantages of this new material, which is not only attractive and aesthetically pleasing, but is also corrosion and erosion resistant and colour fast.

'Broderick' prefabricated copper-covered panels were used for both roofing and side cladding on the new Cheltenham swimming baths. (Architect: Jellicoe and Coleridge, London)

Flooring: fashionable

Urethanes under foot

WHILE the search for commercially attractive polyurethane coatings continues for such materials as paper, leather, rubber and textiles, great progress has been made in flooring. In recent years, the resin bonded floor surface has steadily increased in popularity. The attractions of a relatively thin, tough, dust-free, chemically-resistant surface which can be trowelled over and bonded to existing floors are many.

The polyurethane systems offer features similar to other resin systems, but are more tolerant of site conditions and, perhaps more important, they are competitive in price.

What started originally as research into anti-slip surfaces for the metal decks of aircraft carriers, where modern high-speed aircraft weighing up to ten tons decelerate rapidly, has been developed by Armalux Flooring Limited (an ICI subsidiary) into a coloured urethane aggregate flooring system.

Their specifications can be tailored to suit most conditions on either old floors or new work.

The Armalux system gives colour to floors. A wide variety of colour blends are available for industrial and semi-industrial applications. Armalux have been licensing their techniques in the United Kingdom so that local companies, using the Armalux system, can offer a service in all areas from Scotland to the south coast.

For one of the Armalux systems, 'Fordura 10' flooring, an Agrément Certificate has been awarded. Other applications for Agrément Certificates are being made for other floorings in the Armalux range.

The systems are for: the upgrading of existing floors which are breaking up and are dangerous or unsatisfactory, but where time is not available to re-lay the floors completely; new work which requires a surface resistant to petrol, oil and chemicals, is dust-free and easily maintainable; and dust-proofing and imparting chemical resistance to smooth floors, with the added beauty of colour.

In practice, the work is split fairly equally into these groups. In the first group, work has been tackled on council house kitchen floors, high-quality inspection rooms in precision engineering factories and in food factories where the old floors have been condemned on hygienic grounds.

In the second category, contracts range from an art gallery in Bond Street and the composing room of the new Yorkshire Post building at Leeds to the Manchester City Football Club changing rooms as well as work at Cambridge and Birmingham Universities.

The third category applies to new warehouses or light industrial areas where dust-free qualities, chemical resistance or colour are the main features required. In all, over 400 projects have already been completed.

The advantage of the Armalux system is that it produces a seam- and crack-free flooring. The floors clean very easily and can be renewed by applying another clear top coat. By selecting aggregates from the wide range on offer, the floorings can be made to blend with the existing decorations.

The Yorkshire Post uses 'Armalux' as the flooring in their composing room

and functional

'Armalux' trowels on to a smooth seam-free flooring

Carpets, carpets everywhere

CARPETS were the essence of luxury not so long ago, expensive and not particularly hard wearing. Now, it's carpet, carpet, everywhere. The exceptionally hard-wearing qualities of carpets made from ICI nylon allied with their low costs and wear performance will enable the even greater use of carpeting in industrial situations in the future.

At one time only Top People had their offices carpeted. Now, in many instances, carpets are becoming a necessity at all levels—especially in open-plan offices where the noise level would be unacceptable without them. It is becoming widely accepted today that carpets are an aid to improved work output, through quieter and more comfortable working conditions.

In shops, from the largest store to the trendiest boutique, carpeting makes shopping a much more pleasant, comfortable outing and —an added plus-point—it makes the likelihood of slipping and falling much less.

The hotel and restaurant industry have depended on carpets to give added touches of luxury. But now complete decor-changes made every four to seven years, and with costs continually rising, it is vital that savings be made. With 'Bri-Nylon' carpet it is possible either to spend the same amount of money and get a longer wearing carpet, or to choose one that wears for the same length of time and costs less.

Tests have been carried out using carpets of the same pile height, tuft density and yarn thickness but made from different pile fibres. These tests showed that a carpet made from 100 per cent ICI nylon had over twice the wearing quality of a 50/50 wool/nylon mixture and six times that of a 100 per cent wool carpet of the same construction.

ICI nylon is being used to make all types of carpeting ranging from 100 per cent 'Bri-Nylon' needlefelt to conventional pile carpets such as 100 per cent 'Bri-Nylon' Wiltons and Axminsters. Free-layable carpet tiles and tufted carpets made from ICI nylon are available with foam backing to obviate the need for an underlay. The range of these contract carpets, with the exception of woven carpets, can be seen in the Barbour Index. A woven section will be added to Barbour Index within the next few months.

Problems from static electricity occur in centrally heated offices, etc., in frosty dry weather where these areas are carpeted and it is fallacious to think that this is a greater problem with nylon carpets than conventional 80/20 wool/nylon carpets. Static problems in carpeted areas do not occur until the relative humidity in the room drops below 40 per cent and it is seldom that the relative humidity level drops below 30 per cent in this country. Carpets made from ICI nylon fibre are now being made which will be static-free down to 25/30 RH, which in effect eliminates the static problem in this country under normal working conditions.

Matchmaker: at your fingertips

THE Dulux Matchmaker was the first British tinting machine when it was introduced in 1961. It was a new concept, designed to offer a much wider choice of colour and increased scope for colour matching. And the colour range of the day was selected to cater for the then brisk demand for a wide range of pastel colours. Now there is added a new range of 220 colours, supplementary to the Dulux trade and BS2660 ranges giving a total of 350 colours.

In 1971 the colour emphasis has changed. A different mood prevails. ICI's Colour Advisory Department has produced a new colour range, breaking entirely away from the former predominance of pastels to give a much more balanced offering in line with current trends in interior decoration. The emphasis is now on variety with an abundant choice of degrees of hue and chroma. Bright and deep colours have been introduced—vibrant oranges (Firedance), warm rich reds (Carmen), mellow golds (Sweetcorn and Clarion), sharp greens and clear deep blues.

Matchmaker colours are available in three quality Dulux finishes—gloss, emulsion and eggshell—and in a range of metric sizes.

Weathershield: all over colour

RESEARCH carried out by ICI into existing exterior wall paints showed that none of them had yet satisfied all requirements. Exterior wall surfaces are generally rough in textures, so there was a strong demand for a smooth paint which would minimise dirt retention, a problem aggravated by uneven surfaces and "gritty" masonry paints. Also it was found that the dirt was often in fact, mould or algae growth, in itself a frequent cause of deterioration in the quality and appearance of the finish. In the light of these findings, a research team started work on developing a new paint which would satisfy the needs of the market.

The result was Dulux 'Weathershield', an exterior wall paint with a smooth finish and incorporating a powerful fungicide to combat the growth of mould and algae. It is re-inforced with nylon for added strength. Because 'Weathershield' is grit-free, surfaces stay cleaner longer. And contractors like it because application is easier with less wear and tear on brushes.

Extensive research and trials on site have proved its durability and resistance.

'Weathershield' is available in a lively colour range from pastel shades to strong, deep colours all carefully selected for their suitability.

Midland Dynamo's main showroom — a new look with Tuscan

Cavaghan & Gray, meat processors — a farmhouse finish in Aquarius

Alabaster was selected for the exterior of the Arnold Lodge School, Leamington Spa

Tip Top Taps

THE SUCCESS story of 'Opella' taps dates back to 1962, when a development team at the Witton, Birmingham, works of Imperial Metals Industries suggested making taps of plastic. The fundamental difference from earlier, unsuccessful, attempts was that for the first time there was a plastic which appeared ideal for the purpose. This was an acetal resin, now marketed as ICI's 'Kematal'. It has three big advantages over brass, the traditional tap material: it stays cool even when running boiling water, it has design/colour flexibility and its price is stable.

All three of these have been exploited as the 'Opella' range has grown but from the beginning colour has been the major attraction.

The 100 Series, when first introduced, was white with a choice of colours for the cross-top. Coloured bodies to match sanitary ware were added later, followed by the popular 500 Series range of bath, basin and sink pillars possessing all the proven advantages of the 100 Series. Top of the taps is the latest addition, the 800 Series—a new super luxury addition to the 'Opella' range. Apart from bath and basin pillar taps, the 800 Series also includes a bath/shower mixer and handset, a bath mixer and a hand-basin mixer available with or without "pop-up" waste outlet.

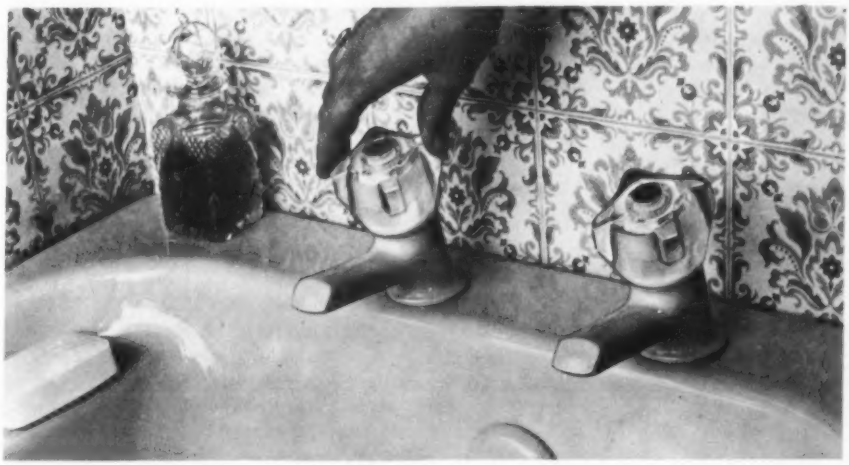
All have the essential 'Opella' practicality: as Bernard Walkley, director of IMI Opella says: "Even in the first flush of enthusiasm we realised that it was not simply a matter of dreaming up a beautiful or exciting design. Taps are among the most hardworking of all domestic fittings, used and misused a hundred times a day and expected to function with complete reliability and minimal attention over 25 or 30 years."

The 'Opella' design team built and rigorously tested prototypes. One was rejected because it had a comparatively flexible spindle producing an unfamiliar spongy feel. Yet another was turned down because, with the constant rise and fall of the tap head, the spindle gradually acquired a dingy and unhygienic patina.

A more sophisticated mechanism, incorporating a non-rising spindle and cross-top, brought promises of success, but tests took time, and it was not until 1965, three years after inception, that the team was satisfied that an all-plastic tap mechanism could be successfully mass-produced. At this stage the industrial designer Martyn Rowlands was called in, and his initial design was accepted with only small modifications. The taps were given long-term field service trials by the British Waterworks Association, who had never previously approved a plastic tap. Bernard Walkley recalls: "We did everything that the British climate and the average household can do to taps—we boiled them, froze them, fed them with highly-aggressive water, stood on them, neglected them, and played cowboys with them."

It all paid off. BWA gave their approval and design awards followed: Design Centre selection, the Daily Mail Ideal Home Blue Ribbon Award for the 100 Series in 1969, a CoID award for the 500 Series in 1970. Earlier this year, all 100 and 500 Series taps including mixers, were granted a certificate from the Agrément Board. This certificate is granted after tests in which the taps were cycled over 1,000,000 times from the fully-opened to the fully-closed position at working pressures and temperatures, while the swivel arms of sink mixer taps were rotated through 180° over 250,000 times. It is the only certificate the Board has given for taps.

Bernard Walkley sums up: "From the first, we were determined to avoid the temptation of using plastic simply as a substitute for brass: our products are all designed to take full technical advantage of a new and versatile engineering material."



'Opella' 500 Series bath taps

'Opella' 800 Series bath mixer set with shower attachment

takeover

'Perspex' for sanitaryware

YOU CAN take a 'Perspex' bath anywhere. Just twenty years after one was trundled across the Australian outback, the Greater London Council raised the first of 133 to the top of a block of high rise flats in the Bow Road, London, estate.

In these twenty years 'Perspex' has become established as a material of importance in the highly complex sanitaryware market. One in six baths sold in 1971 was 'Perspex'. Market research proved there was a place for 'Perspex' and its major technical advantages over conventional materials were hammered home until the market was won over.

What are these advantages? Well, a 'Perspex' bath at 14 kg (30 lb) can weigh as little as one-tenth of its equivalent in cast iron and so is cheaper to transport, quicker to handle and easier to install, and so less likely to damage plaster and paintwork. 'Perspex' is self-coloured so the colour will not wear away or flake off to reveal an unsightly substrate. The colour possibilities are greatly increased and not only does the colour range match the standard colours of the Council of British Ceramic Sanitaryware Pottery Manufacturers but exciting new colours such as Pampas, Sun King, Savannah and Avocado have been introduced. The cost of a bath in coloured 'Perspex' is only marginally greater than that of a white one.

'Perspex' can be shaped easily, allowing the designer to develop new styling: broad flat bottoms to reduce the risk of accident, low drop-sides curved to prevent splashing. Elegant panels cater for attractive aesthetic lines; all this at relatively little extra cost.

'Perspex' is warm to the touch and is a good insulator. Its surface is glass-smooth and easy to clean without abrasives or scouring powders. Any scratches can be easily removed with liquid metal polish.

Ten years ago, with only the Australian experience to act as a guide, sound fabrication techniques had to be established to give baths which had to be strong, dependable, functional and attractive, also economical in material equipment and time. In addition, simple but reliable cradling systems, plumbing and fixing methods had to be perfected to win the co-operation of the trade—all this at a price which both public and private sectors of the sanitaryware industry could afford.

Since no amount of laboratory testing can be a substitute for genuine user trials, baths were installed in hospitals and old people's homes. One such bath in the Dermatological Department of a major city hospital, where, all day long, patients are bathed, is still giving satisfactory use after being used some 40,000 times in eight years—equivalent to well over 100 years' use on the basis of a bath every day.

Although a white 'Perspex' bath is equivalent in price to a conventional white bath the ease of installation and maintenance has swayed local government authorities such as Manchester and Warley to specify 'Perspex' baths for their latest housing projects.

In the private sector 'Perspex' baths offer colour and luxury styling at prices only a little higher than those of white conventional models and are highly competitive in markets where personal choice plays a significant part.

Fencing in 'Uniplas'

ARCHITECTS and the industry have to satisfy an increasing demand for materials that require only minimum maintenance yet provide maximum reliability. In many cases natural materials have been replaced by man-made substitutes. Wood is a prime example. It is pleasant enough to work with and reasonably economic but it does have the disadvantages of requiring a great deal of maintenance and, if used as an exterior material, it will, in time, rot.

It was these criteria that led technologists at Yorkshire Imperial Plastics (a subsidiary company of IMI) to consider using PVC to replace wood in fencing applications. PVC has many advantages in this type of situation. It is light, making erection easier, and it requires very little maintenance as it is self-coloured and non-corrosive.

The planks, marketed under the name 'Uniplas' are extruded from ICI's 'Corvic' polymer. They are available in four plank sections and two standard lengths, with a white glossy finish. It is this variety in profile that gives designers the opportunity to experiment with design variations which would not be possible with a single plank profile. Post sections are available as standard with a black finish.

The sections have high impact and flexural strength. Each section incorporates an internal integral web structure which has a double purpose. The webs give added support to the section and at the same time provide precise internal cavities which will accept standard wood or metal sections where additional reinforcing is required.

Although designed originally as a fencing material, new applications are continually being discovered. Sign posts, fascia panels, room and office dividers, and even seating are some of the other uses of 'Uniplas'.

One of the most aesthetically pleasing uses of 'Uniplas' is as a ceiling material. In the Maidstone showroom of Hall and Company Limited (builders' merchants), it is used as direct fixed ceiling. In the design studios of the London and Provincial Poster Group, 'Uniplas' is used as a suspended ceiling. The advantages in these applications are the elimination of maintenance and light weight. The different profiles in the 'Uniplas' range add to the design possibilities.

'Uniplas' was specified for a new multi-storey car park designed for Debenhams, the London store group. 'Uniplas' sections are

Plastics takeover

used as buffer rails, forming a protective barrier for both the cars and their owners.

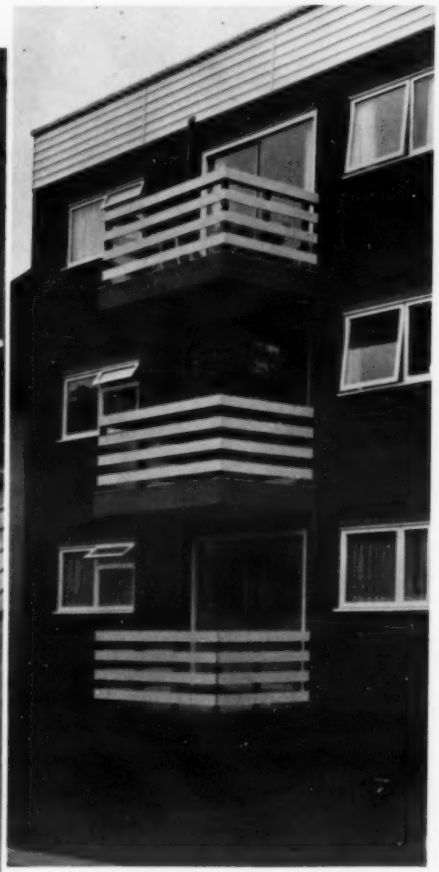
The local authority of Keynsham, Somerset, specified 'Uniplas' for a large council housing project, and in Cockfosters, Hertfordshire, a block of luxury flats has balcony balustrades constructed in steel-reinforced 'Uniplas'.

Internal steel reinforcement gives added strength to the 'Uniplas' sections in compliance with the normal Codes of Practice for balustrade loadings. Obviously, the 'Uniplas' acts as a protective cladding for the steel; this is particularly important in corrosive environments found, for instance, in coastal areas.

The cost advantages of using 'Uniplas' are not immediately apparent. Prime costs may be slightly in favour of timber. But when post-construction maintenance costs are considered, 'Uniplas' will show considerable savings. Similarly, 'Uniplas' used as a cladding can eliminate the cost of repainting or protecting metal railings and balustrades from rust.

The buffer rails in car parks can be constructed from 'Uniplas'

Twenty-five PVC sections are used to form this decorative ceiling



Steel reinforcement enables 'Uniplas' to be used as balcony balustrades

Furniture: freedom in design

FURNITURE is becoming more and more a fashion item. Advanced techniques of manufacture have made possible a styling revolution and at the same time, public acceptance of new ideas in furniture has never been greater.

Designers have been freed from the limitations of traditional materials and customers are welcoming an adventurous approach.

A lot of interest centres around polyurethanes —the versatile plastics pioneered by ICI.

The advantages of moulding basic shells from rigid foam instead of building them from wood are numerous. They can be produced at speed and with relatively unskilled labour; design freedom is virtually unlimited; the shells are strong, light and immune to pests; the foam bonds strongly to almost any material, and its quality is consistent.

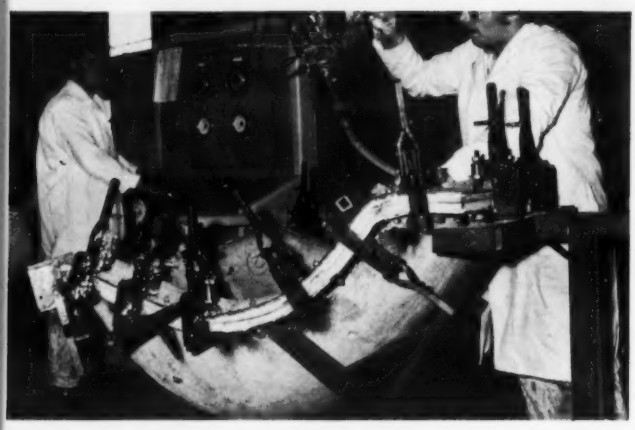
Tangent Foams Limited (an ICI subsidiary) have at their fingertips the expertise in urethane technology, shell design and production and furniture design.

The design of a successful piece of upholstered furniture based on a rigid urethane shell is not merely a matter of deciding shape but requires consideration of several factors.

The designer who takes these facts into consideration has at his command a new and vastly versatile medium; a medium which is capable of leading to furniture which is produced easily and economically by modern production methods.

Several factors affect the strength of a rigid urethane foam shell but the basic factor is the strength of the urethane foam itself, and specially developed formulations are now in use to give the maximum strength consistent with the lowest weight. The thickness of the foam shell will govern its strength, but if a thin shell is aesthetically desirable, it is possible to compensate by increased density and the inclusion of other types of reinforcement.

Traditional skills are giving way to the skills of the new technologies. In this picture sequence an idea is given of the production methods of a modern style chair.



Injecting the urethane chemicals and resin blend into the mould

Taking out the complete chair shell from the mould

Removing the excess "flash" from the joint line of the mould to make it ready for upholstering

Upholstering a finished shell in ICI 'Ambla'

A view of a Tangent workshop showing articles in process of manufacture

News in brief

ARCHITEASER No. 1 SOLUTION

Solution 45 metres. This problem is partly straightforward and partly mischievous. Straightforwardly, a spiral making one revolution of a cylinder forms the hypotenuse of a right-angled triangle, whose base is the circumference of the cylinder. But we also need to know how much of the tower is visible. The clue is that the other objects in the picture are casting a shadow one-third of their height. The shadow of the tower is equal to the visible height of the tower. So, two-thirds of the tower is $3 \times 15 = 45$. (To be utterly strict, the answer is $45 \pm k$, where k is a small amount to allow for inexactness in the drawing). The winners who received a personalised bottle of whisky were: David J. Jerrison, D. F. Twohig, J. M. Maider, P. Hoadley, N. M. G. Hennessy, N. Burnett, R. A. Carr, J. B. Jackson, Dulton Clark, W. O. Armstrong, E. J. J. Williams, R. J. Clarson.

NEW COLLECTIONS

ICI HAVE launched four new wallcovering collections — a new range of 'Vymura' vinyl wallcoverings and three new 'Walflair' collections.

Each of the new sets takes ICI wallcoverings into new and intriguing areas of design. 'Vymura' International is introduced only nine months after the main 1971/72 'Vymura' range, and is therefore carefully selected to complement the current 'Vymura' offering. Although 'Vymura' International has been designed to have a particular appeal to the housewife it also offers new possibilities for the specifier.

'Walflair' Europa is a collection of top quality wallpapers, the designs being culled entirely from European sources. The two 'Walflair' Classic collections, which follow the highly popular Classic sets of 1969, offer a wide variety of styles and colours and introduce some bright new ideas.

METRICATION BOOKLET

A NEW publication — "Pocket Guide to Metrication — Tubes, Fittings and Adaptors", has been published by Yorkshire Imperial Metals Limited, a subsidiary company of IMI.

This illustrated guide unfolds from a pocket-sized card into a comprehensive document, providing a ready reference to the whole range of Yorkshire Imperial's adaptor fittings for the metric changeover. Information is included on fittings within the 'Yorkshire' capillary and 'Kuterlite' compression ranges which are interchangeable with imperial and metric tubing; adaptors are discussed in detail with tables advising their use and illustrated reference to their type and size; the special 'Kuterlite' adapting rings (to adapt metric fittings for imperial sized tube), and on the additional metric/imperial adaptor fittings which have been provided for converting old stocks of imperial sized fittings. It also illustrates how to distinguish between metric and imperial components during installation. A booklet can be obtained by ticking the appropriate place on the reply-paid card.

LONDON COUNCIL APPROVES RECTILINEAR RAINWATER SYSTEM

THE Rymway Consortium's Rectilinear PVC Rainwater System has been accepted as suitable for use on buildings in the Greater London Council area. This approval follows tests and reports carried out by the Council's Department of Architecture and Civic Designs. The Rectilinear System was added to the 'Rymway' range of plastics, rainwater, soil and waste drainage goods in October 1970, and is already meeting with wide-scale approval from specifiers and users.

NEW METAL COATING

A NEW type of metal coating which will last at least three times longer than conventional paints has been developed and introduced in the U.K. by ICI Paints Division.

The paint, 'Fluorolux', is designed principally for use on architectural cladding, curtain walling and roofing systems where the metal sheet is precoated and formed before leaving the factory. 'Fluorolux' has exceptional durability and flexibility, and is capable of withstanding any forming operation likely to be needed in the production of cladding, without cracking.

'Fluorolux' is a finish based on a polyvinylidene fluoride resin, 'Kynar 500', made by the Pennwalt Corporation of the U.S.A. ICI is one of the first paint companies outside America to begin manufacture of coatings made from this exceptionally tough resin. The finish can be applied at a film thickness of 20 — 25μm. on high-speed coil coating equipment. It can be applied by spray or roll-coated over a suitable primer. Laboratory tests of metal panels coated with 'Fluorolux' have shown that the paint has exceptionally good adhesion, flexibility and extensibility. In fact, the 'Fluorolux' coating is as flexible as the metal substrate in most cases.

On site, 'Fluorolux' is highly resistant to atmospheric and chemical attack, making the surface easy to clean and minimising the need for costly maintenance. It has been subjected to the hardest accelerated weathering tests, with results which indicate that the new paint will perform satisfactorily for up to twenty years.

'Fluorolux' is available in a range of eight colours, plus black, white and metallic finishes.

ON TOUR

November 10, 11 . . .	Edinburgh
December 1, 2 . . .	Newcastle-upon-Tyne
January 26, 27 . . .	Nottingham
February 16, 17 . . .	Manchester
March 8, 9 . . .	Cardiff
March 28, 29 . . .	Sutton Coldfield
April 12, 13 . . .	Leeds

Please fill in the reply-paid card for an invitation.

ICI BUILDING GROUP are on the move with their touring exhibition. The exhibition will be in various parts of the country in the next six months or so.

It covers a wide range of developments in building materials and components, underlining the continuing improvements in services to the Construction Industry given by the ICI and IMI groups. The complete range of products will be displayed and shown in practical demonstrations. The items featured include: new fire retardant foams, ceiling heating systems, metrication in plumbing development and thermal insulation services. Also shown will be aspects of research and development and a special feature on 'Renovation' will be included. ICI and IMI experts will be on hand for detailed discussions on products and services. The 'Building Plus' touring exhibition will be at the above places on the dates given.

ICI Building Group,
Rosanne House,
Bridge Road, Welwyn Garden City, Hertfordshire. Telephone Welwyn Garden 23400.
Telex 264251.

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